

## **FISCAL YEAR 2018**

### **OHIO STATE CLEAN DIESEL GRANT PROGRAM**

#### **WORK PLAN AND BUDGET NARRATIVE**

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*INSTRUCTIONS: States and territories applying for FY 2018 DERA State Clean Diesel Grant Program funding must use this template to prepare their Work Plan and Budget Narrative.*

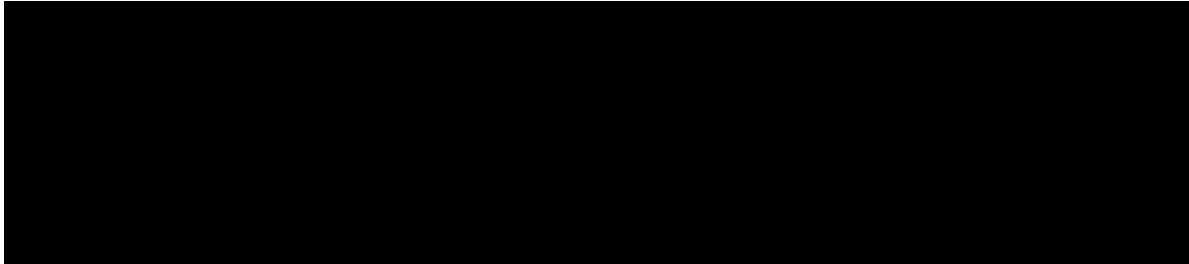
*Please refer to the FY 2017-2018 STATE CLEAN DIESEL PROGRAM INFORMATION GUIDE for full Program details, eligibility criteria and funding restrictions, and application instructions.*

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## SUMMARY PAGE

**Project Title: Ohio State Clean Diesel Grant Program**

**Project Manager and Contact Information**



**Project Budget Overview:**

	<b>FY 2017*</b>	<b>FY 2018</b>
EPA Base Allocation	\$270,411	\$278,840
State or Territory Matching Funds (if applicable) VW DERA Option	\$1,098,533	\$328,650
EPA Match Incentive (if applicable)	\$ 135,205	\$139,420
Mandatory Cost-Share	\$ 2,288,149	\$1,123,200
<b>TOTAL Project</b>	<b>\$ 3,792,298</b>	<b>\$1,870,110</b>

\*FY 2017 budget is only for states and territories with open FY 2017 State DERA grants

**Project Period**

October 1, 2018 – September 30, 2019

**Summary Statement**

Ohio EPA proposes to use the FY 2018 funds to support a modification requested by Great Lakes Towing submitted 3/27/18 to Region 5 and Ohio EPA for the tug boat replacement project already underway with FY 2017 funding. The project funds 40% of engine component costs to replace eight aging tug boats with unregulated emissions, with four new tugs. The company is proposing a different diesel-electric hybrid technology for three of the four new tugs, which is expected to result in additional emission reduction benefits. Ohio EPA also requests to reallocate \$1,890 in remaining FY 2017 funds from a completed school bus replacement project to the modified tug boat project. Past DERA State Clean Diesel Program expenditures for the tug boat project and for school bus retrofits and replacements in Ohio are posted at <http://epa.ohio.gov/Portals/42/documents/FedFundSumForDERAProjsInOhio%202017%20jan18.pdf>.

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## SCOPE OF WORK

*[This section is a discussion of the state's or territory's plan to develop and implement grant, rebate, and/or loan programs and how these programs meet state or territory goals as they relate to the reduction of diesel emissions.*

*The scope of work should contain a detailed project description, including the following categories and information.]*

**STATE/TERRITORY GOALS AND PRIORITIES:** *[A description of the air quality within the state or territory, the quantity of air pollution produced by the diesel fleet in the state or territory, and the primary sectors (e.g. highway, marine vessels, construction equipment) that make up the state's or territory's diesel fleet (both public and private).]*

Based upon the 2014 National Emissions Inventory, the diesel fleet in Ohio contributes 7,268 tons of PM<sub>2.5</sub> emissions annually, of which 1,245 tons originate in the counties targeted for federal funds (Ashtabula, Cuyahoga, Lake, Lorain and Lucas Counties). Statewide, non-road diesel equipment accounts for 2,962 tons, on-road diesel heavy duty vehicles account for 3,043 tons, on-road diesel light duty vehicles account for 119 tons, commercial marine vessels account for 41 tons, locomotives account for 1,103 tons, and aircraft account for 245 tons. With respect to the targeted counties, non-road diesel equipment accounts for 439 tons, on-road diesel heavy duty vehicles account for 574 tons, on-road diesel light duty vehicles account for 19 tons, commercial marine vessels account for 30 tons, locomotives account for 183 tons, and aircraft account for 31 tons. Please note this does not include emissions from point sources (operations at individual facilities). Data for marine vessels, locomotives and aircraft includes all types of fuels although it is expected that the majority of those are diesel.

While the PM<sub>2.5</sub> air quality in Ohio continues to improve from historical levels, areas of Ohio continue to struggle in meeting health-based air quality standards as USEPA continues to lower those standards. Currently Ohio is not meeting the PM<sub>2.5</sub> annual standard in Cuyahoga and Lorain Counties. PM<sub>2.5</sub> levels tend to be highest in the urban and industrialized areas of Columbus, Cincinnati, and Cleveland, along with the counties surrounding those areas.

Based upon the 2014 National Emissions Inventory, the commercial marine fleet in Ohio contributes 1,566 tons of NO<sub>x</sub> emissions annually, of which 1,130 tons originate in the counties targeted for federal funds (Ashtabula, Cuyahoga, Lake, Lorain and Lucas Counties).

While the ozone air quality in Ohio continues to improve from historical levels, areas of Ohio continue to struggle in meeting health-based air quality standards as US EPA continues to lower those standards. NO<sub>x</sub> emissions contribute to the formation of ozone. On April 30, 2018, U.S. EPA designated fifteen Ohio counties as nonattainment for the 2015 eight-hour ozone standard. As a result, additional strategies will be necessary to achieve further emission reductions in these counties. Ohio EPA designated these counties as First Priority for eligible mitigation actions to be funded from Ohio's allocation under the Volkswagen settlement, in the state's [Beneficiary Mitigation Plan](#) that was submitted to the VW Trustee 5/31/18. Ozone levels tend to be highest

in the urban and industrialized areas of Columbus, Cincinnati, and Cleveland, and their surrounding counties.

In 2005, Ohio EPA Director Joe Koncelik received approval from the Ohio General Assembly to create the Ohio Clean Diesel School Bus Fund, earmarking a portion of state civil penalties to protect young children, the population segment most vulnerable to adverse health effects from the harmful pollutants in diesel exhaust. According to US EPA, 24 million American children ride a school bus every day, spending an average of 90 minutes each weekday in a school bus. According to the Ohio Department of Education, 1.3 million children in Ohio ride school buses.

That decision to focus our efforts on children riding school buses has been reaffirmed by three subsequent Ohio EPA directors and recognized with 2008 Leadership Awards from the Midwest Clean Diesel Initiative to both Joe Koncelik and Ohio EPA. Over the past decade, Ohio EPA has directed \$5.85 million in state funds, augmented with \$4.05 million in DERA and ARRA state clean diesel allocation funds, to cleaning up aging diesel school buses. To date, we have awarded more than \$9.2 million in 216 grants to school districts and county developmental disability programs and one commercial provider of school bus services to Ohio school districts, to:

- retrofit emission controls such as diesel particulate filters, diesel oxidation catalysts, and closed crankcase filters onto 2,625 school buses;
- install direct-fired heaters onto 1,037 school buses to reduce engine idling and fuel consumption; and
- pay a portion of the engine component costs to replace 44 aging diesel buses with new clean diesel buses.

Ohio EPA used the Diesel Emissions Quantifier to estimate that these efforts have resulted in annual reductions of more than 117 tons of pollutants (PM 2.5, carbon monoxide, NO<sub>x</sub> and hydrocarbons). These benefits will continue to accrue as long as these school buses remain in service.

Ohio EPA has also encouraged Ohio entities to take advantage of other funding opportunities to reduce diesel emissions, such as US EPA's DERA competitive grants, the Federal Transit Administration, the US Department of Energy's Clean Cities program and alternative fuel incentives, and occasional Supplemental Environmental Projects in enforcement cases.

In 2009-2010, Ohio EPA assisted the Ohio Department of Transportation and the Ohio Department of Development in estimating emissions benefits for Ohio clean diesel project applications funded through the Federal Highway Administration's Congestion Mitigation and Air Quality (CMAQ) program. In 2011, the Ohio General Assembly assigned Ohio EPA direct responsibility to administer Ohio's [Diesel Emission Reduction Grant \(DERG\) program](#) in partnership with ODOT. These CMAQ-funded grants are available to public sector fleets and private sector fleets applying through a public-private partnership, and to diesel fleets in all transportation sectors. In the four DERG grant cycles Ohio EPA has administered between 2012-2017, 89 projects were funded for more than \$47 million, resulting in an estimated annual

emission reduction of more than 1,787 tons of air pollutants (fine particulates and nitrogen oxides). Specifically, these last four cycles of DERG grants have been awarded to:

- replace 139 school buses with clean diesel, 37 with propane and 4 with CNG;
- install direct fired heaters for idle reduction onto 115 school buses;
- repower 3 locomotives, retrofit 61 locomotives with electric layover heating systems and install 33 plug-in stations for idle reduction;
- repower 18 marine engines in 6 tug boats on the Ohio River;
- replace 150 diesel trucks with clean diesel, 196 with CNG and 6 with propane;
- install one CNG fueling station;
- install 154 electrified spaces at truck stops along interstate highways in Ohio, as well as 2 power stations/hybrid trailer hookups;
- replace 18 transit buses with clean diesel, 74 with CNG and 2 with zero emission hydrogen fuel cells;
- replace 5 diesel shuttle buses with propane;
- replace 11 diesel transit trolleys with clean diesel;
- replace one piece of road construction equipment; and
- replace the diesel engines in two airport snowblowers.

Ohio EPA is currently distributing a one-time allocation of \$5 million in state funds for grants supporting a portion of the cost differential to replace heavy duty (class 7 and 8) diesel trucks and buses with those fueled with CNG, LNG or propane. To date, this [Alternative Fuel Vehicle \(AFV\) Grant program](#) has supported 43 new school buses and 114 new trucks used for freight handling, recycling, refuse collection, snow removal and road maintenance.

Ohio EPA will continue to direct available CMAQ funding and funds from the new Volkswagen Mitigation Trust to support similar diesel emission reduction projects. We are pleased to have the new VW Mitigation Trust Fund opportunity to reduce emissions from vessels and cargo handling equipment in Lake Erie ports that we have been unable to address with CMAQ funds. Ohio EPA updated the DERA option language on pages 14-15 of Ohio's final [Beneficiary Mitigation Plan](#) about the tugboat project described below, to include FY 18 DERA funding.

**VEHICLES AND TECHNOLOGIES:** *[A description of the eligibility, number, types and typical use, and ownership of vehicles, engines, and/or equipment targeted for emission reductions. Eligibility of vehicles is defined in Section VIII.B of the Program Guide. A description of all verified and/or certified technologies to be used or funded by the applicant. Eligibility of technologies is defined in Section VIII.C of the Program Guide.]*

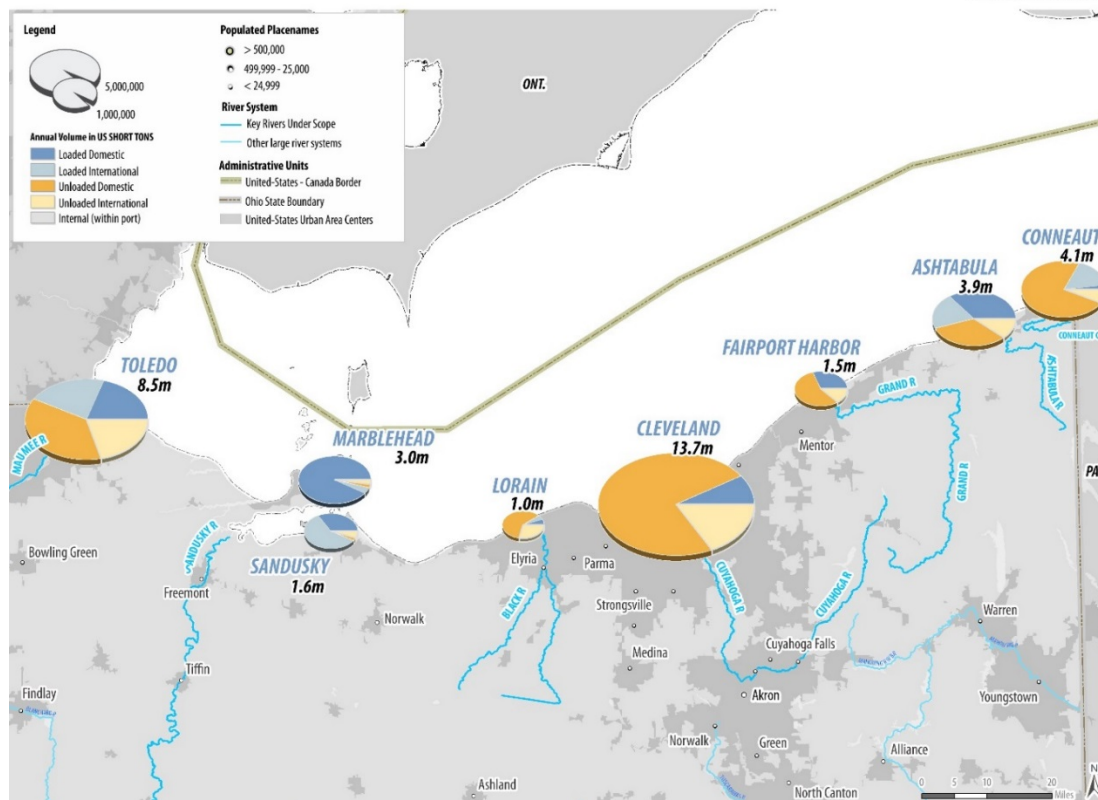
Ohio EPA received approval to use its FFY17 DERA state allocation, matched with Volkswagen Mitigation Trust funds, for 40% of the engine component costs to replace eight 1899-1931 era tug boats, each with a single, tier 0 diesel propulsion engine and an auxiliary generator. The last rebuilds on the engines in these vessels were completed in the 1950s. The tugboats are based and operate primarily in Ohio's Lake Erie harbors of Toledo (Lucas County), Cleveland (Cuyahoga County), Ashtabula and Conneaut (both Ashtabula County), and may operate occasionally in Lorain (Lorain County).

Ohio EPA proposes to use the FY 2018 funds to support a modification requested by Great Lakes Towing in a request submitted March 27, 2018 to US EPA Region 5 (Frank Acevedo) and Ohio EPA [REDACTED] to the tug boat replacement project already approved for the FY 2017 funding. The project is currently approved to replace these eight vessels with four new Tier III twin engine tug boats with GenSets. The first of the new tug boats is currently under construction, using the technology originally proposed and approved. The company's March 2018 modification request is to use a different diesel electric hybrid system for the other three new tugs, at an added cost of \$624,000 per vessel or a total of \$1,872,000. The company proposes to keep the same project percentage, requesting that state and federal DERA funds cover 40% of the additional engine component costs of \$748,800, and the company pledging to pay 60% of the additional engine component costs of \$1,123,200.

Ohio EPA supports the company's request and has included the requested amount for the project modification in Ohio's [Beneficiary Mitigation Plan](#) that was submitted to the VW Trustee 5/31/18.

The school bus replacement project that was completed using FY 2017 funds came in \$1,890 under budget. Ohio EPA respectfully requests that the unused \$1,890 in FY 2017 funds be reallocated to the modified tug boat project. Thus the FY 2018 total project cost listed in the Project Budget Overview Table above is \$1,870,110 rather than \$1,872,000.

Ohio EPA used the Diesel Emissions Quantifier (DEQ) tool to estimate the pollution reductions to be achieved based on the specific equipment proposed in the modification request by the Great Lakes Towing Company. Whereas the project as previously approved was estimated to achieve 35 tons of total annual emission reductions of several pollutants, the modification requested is estimated to achieve 40.484 tons of annual reductions compared to baseline: 34.364 tons reduction in NOx (54%), 0.709 tons of PM<sub>2.5</sub> (51%), 0.235 tons of HC (31%), 5.176 tons of CO (44%). A copy of that analysis is enclosed with this workplan.



Source: Ohio Maritime Study – Working Paper 1 – Ohio’s Maritime Transportation System, prepared by CPCS Transcom Inc for the Ohio Department of Transportation, March 10, 2017,

<http://www.dot.state.oh.us/Divisions/Planning/SPR/StatewidePlanning/Documents/Ohio%20Maritime%20Study%20-%20WP%201.pdf>

The Great Lakes Towing Company’s originally approved project was to replace eight aging tugboats with four new twin-engine Damen tugs with MTU Series 4000 38 liter marine propulsion engines, model 8V4000M54R, rated at 1,000 BHP @ 1,600 RPMs, EPA Tier III emission rated; a John Deere 65kw marine generator set and a FlexaGen system, which is the added electric motor that would be engaged by the tug when not providing a ship assist service. The FlexaGen system allows the primary engines to be shut down during non-load operations, thereby further reducing emissions. The first of these replacement tugs is currently under construction in the Company’s Cleveland shipyard, and is expected to be completed in the fall of 2018.

For the remaining three new tugs, the Company is now proposing to further decrease emissions through the use of a diesel electric hybrid system, known as a FlexaDrive system rather than the FlexaGen system, that eliminates the use of costly batteries and uses an electric motor instead. The benefits of this request include the following:

- Decrease main diesel engine utilizations to 20%, employing the use of electric motor operation 80% of the time.
- Further reductions in emissions, estimated by Ohio EPA at 5 tons annually

- Reduced cost per ton of NOx reductions, estimated by the company at 56%
- Showcase a fleet of diesel hybrid electric vehicles, as this will be the only U.S. tug fleet operating with this new hybrid technology in the U.S.

**ROLES AND RESPONSIBILITIES:** *[A discussion of the roles and responsibilities of the state or territory and any other project partners, contractors, or subgrantees. State and territories should indicate whether their Program funds will support grant, rebate, and/or loans, and provide a detailed description of their disbursement methodology. ]*

Ohio EPA proposes to amend the current grant agreement with sub-recipient the Great Lakes Towing Company in Cleveland, Ohio, to increase the current award to include FY 18 funds. The grant will reimburse the company for 40% of the engine component and installation costs to replace eight single engine Tier 0 tug boats operating in Ohio Lake Erie ports with four new Tier III tug boats with the proposed new technology.

Ohio EPA's grant contract with the Great Lakes Towing Company outlines their responsibilities consistent with the DERA funding requirements. Once this contract amendment has been signed and executed by both parties, Ohio EPA will notify the subrecipient to initiate purchase of the replacement engine equipment for the three tug boats. The subrecipient will pay 100% of the cost of the new tug boat, provide proof of payment, and submit an invoice to Ohio EPA for the approved allowable costs of the new tug boat.

The subrecipient is aware of and contractually obligated to fulfill a requirement to destroy the old tug boat engine within 90 days of placing the new tug boat into service. The Company has asked Ohio EPA and US EPA Region 5 to consider an alternate disposal method for one or possibly two of the oldest of the eight existing tug boats, to become part of permanent exhibits at maritime museums in Ohio and Michigan. The vessels will no longer be in service, but Ohio EPA has requested clarification from the Company and the museums as to whether and how often the old diesel engines might have to be engaged as part of exhibit maintenance. These details are still being negotiated, and will be shared with US EPA for a final determination on the alternate disposal request.

Ohio EPA requires quarterly expenditure and activity reports from subrecipients, and payments to subrecipients are strictly for reimbursement of eligible expenses based on Ohio EPA approval of submitted invoices. Subrecipients are contractually required to keep receipts and financial records for five years after concluding the grant and make those records available for inspection when requested. The replacement tug boats must be kept in service in Ohio ports for a minimum of five years, and are expected to remain in service for many more years. Subrecipients may not make changes to equipment or time lines without prior written approval from Ohio EPA. Staff members from Ohio EPA's Office of Environmental Education (OEE) and/or Division of Air Pollution Control (DAPC) may conduct site visits to observe installation of new tug boat engines, destruction of old tug boat engines, or audit financial records.

**TIMELINE AND MILESTONES:** *[A detailed timeline for the project including milestones for specific tasks, such as subgrant or rebate program development, solicitation of project partners, making subawards, program/project implementation, procurement and installation of equipment, monitoring and oversight of projects, and reporting.]*

Ohio EPA anticipates executing an amended contract with subrecipient The Great Lakes Towing Company within 45 days of receiving authorization to proceed from US EPA. The first of the four new tug boats is currently under construction in the Company's Cleveland shipyard, incorporating the FlexaGen technology previously approved for FY 2017 funds. Completion is expected in October, 2018. The Company is preparing to order the engine components for the three additional new tug boats immediately upon receiving authorization after approval of this workplan. A timeline of approximately three years is anticipated for the tugboat replacement project, with details and final emissions estimates to be submitted to US EPA for the DERA funding allocation, and to the VW Mitigation Trust Fund Trustee as part of Ohio's Beneficiary Mitigation Plan. We propose to use the DERA state allocation funds on the first two tug boats completed, and fund the remainder of the project with the VW match dollars that may be spent over a longer ten-year period.

**DERA PROGRAMMATIC PRIORITIES:** *[A discussion of how, in providing grants, rebates, and loans under the Program, the state or territory will ensure that projects selected for funding supports the programmatic priorities as defined in Section VIII.D of the Program Guide.]*

By using the federal grant funds to replace very old, unregulated diesel tug boats with Tier 3, cleaner diesel electric tug boats, this proposal will maximize the public health benefits of emission reductions for residents of large Lake Erie port cities like Cleveland and Toledo that have disproportionally suffered from diesel emissions, by reducing their exposure to nitrogen oxides, fine particulate matter, hydrocarbons and carbon dioxide, and the ground level ozone pollution that these precursors contribute to. As noted above, three of the five counties where the tug boats operate were recently redesignated non-attainment for ozone, and two are designated non-attainment for PM 2.5. The project should result in improvement in air quality in the ports. The proposed project was reviewed based on a formula that includes calculation of cost effectiveness in terms of the dollar cost per pound of PM<sub>2.5</sub> and NO<sub>x</sub> reductions that can be achieved, based on the type of engine, model year, engine operating hours, and the emissions factors published by US EPA or the California Air Resources Board.

**EPA'S STRATEGIC PLAN LINKAGE AND ANTICIPATED OUTCOMES/OUTPUTS:** *[A discussion of how the projects selected for funding support the Agency's Strategic Plan, as well as a description of the environmental outputs and outcomes to be achieved under the Program, as defined in Section VIII.E of the Program Guide. To estimate some of the anticipated outcomes of the award (e.g. emissions reductions), EPA encourages states and territories to use the Diesel Emissions Quantifier found at: [www.epa.gov/cleandiesel/diesel-emissions-quantifier-deq](http://www.epa.gov/cleandiesel/diesel-emissions-quantifier-deq).]*

The proposed project supports Goal 1, "Core Mission: Deliver real results to provide Americans with clean air, land and water, and ensure chemical safety," Objective 1.1, "Improve Air

Quality” by significantly reducing diesel emissions by an estimated 40 tons per year (DEQ) and reducing exposure of residents of several port cities and nonattainment areas to the harmful pollutants in diesel exhaust.

The tugboat project is also consistent with the findings and recommendations in EPA’s *National Port Strategy Assessment: Reducing Air Pollution and Greenhouse Gases at U.S. Ports*, (EPA Office of Transportation Air Quality, EPA-420-S-16-002, September 2016, <https://www.epa.gov/ports-initiative/national-port-strategy-assessment>) to reduce port-related diesel emissions that impact public health and the climate.

**Outputs:** Ohio EPA will track the destruction (or approved alternate disposal) of the old tug boat engines, and verify that new higher-tier diesel engines are placed into service. Ohio EPA will use the Diesel Emissions Quantifier tool to estimate the annual pounds or tons of nitrogen oxides, fine particulate matter (PM<sub>2.5</sub>) and other pollutants reduced, and will calculate the project cost-effectiveness in dollars per pound of PM<sub>2.5</sub> and other parameter emission reductions achieved. Specific emission reduction estimates will be revised in the final project report to reflect the equipment actually installed.

**Outcomes:** Short term outcomes include direct reductions in emissions from the replacement of eight old diesel tug boats with cleaner diesel electric hybrid engines. These actions will have immediate public health benefits for the residents of the Ohio Lake Erie port communities. Another will be the increased public awareness of the benefits of the clean diesel program, as Ohio EPA and the Great Lakes Towing Company publicize their efforts.

Medium-term outcomes include the widespread adoption of cleaner technology by diesel fleets in Ohio. What is learned from this project is anticipated to inform our efforts to reduce emissions from other targeted fleets, allowing continued progress toward the goals of the Midwest Clean Diesel Initiative.

Long-term outcomes include improved air quality in some of the state’s urban areas that have struggled to meet PM<sub>2.5</sub> and ozone standards for air quality.

**SUSTAINABILITY OF THE PROGRAM:** *[A description of the state’s or territory’s plan for sustaining the project beyond the assistance agreement period. Additionally, describe the state’s or territory’s plan for publicizing and promoting the benefits of the activities within the state or territory.]*

Ohio EPA will continue to use DERA state allocation funds, Ohio [Alternative Fuel Vehicle grants](#), CMAQ-funded [Diesel Emission Reduction Grants \(DERG\)](#) and the new funding from the Volkswagen Mitigation Trust in Ohio’s new [Diesel Mitigation Trust Fund \(DMTF\)](#) grant program to repower and replace diesel on-road vehicles and off-road equipment with new clean technology. Ohio’s VW [Beneficiary Mitigation Plan](#) was filed with the VW Trustee May 31, 2018, and the first DMTF [Request for Proposals](#) was released June 4, 2018. VW funds proposed here for the DERA Option match on the tug boat project will be available to draw down from the VW Trust beginning July 1, 2018.

Ohio EPA issues a news release to major media outlets statewide announcing the Request for Proposals for each new grant cycle in these programs, and frequently updates an Interested Parties list of more than 4,000 names via email. Ohio EPA issues news releases and e-mailings to announce the recipients and grant amounts awarded, and amount of pollution reduction that is anticipated to result. The news releases are also sent to the subrecipients' local media outlets.

Ohio EPA will continue to publicize the DERA award and tug boat project on its DERA and DMTF web pages.

In April, 2018, Ohio EPA created the attached poster about the tug boat project (as originally approved) that was exhibited at annual conferences of the Environmental Education Council of Ohio, Ohio Environmental Health Association, and legislative briefings about the new VW program. We will also exhibit it at a July 10, 2018 public information session about the VW program, and feature the project in newsletter articles, presentations and exhibits at conferences of organizations such as Clean Fuels Ohio (Midwest Green Fleets), the Ohio Department of Transportation's Transportation Education Conference, the Ohio School Boards Association, Ohio Health Commissioners Association, Ohio Public Health Association, Ohio Pupil Transportation Association, Science Education Council of Ohio, and Environmental Education Council of Ohio.

Ohio's clean diesel projects are also featured in Ohio EPA exhibits at large public events such as the Ohio State Fair and regional Earth Day celebrations, at the Mid-Ohio Regional Planning Commission's annual Clean Air Fair, at career day and environmental education programs for schools and workshops for teachers.

The Great Lakes Towing Company is also publicizing the project through its newsletter and other publications. We have asked that they include copies of news clippings and other documentation of their efforts in their reports to Ohio EPA.

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## **BUDGET NARRATIVE**

*This section of the work plan should include a detailed itemized budget proposal (in addition to the Standard Form 424A), using the table below. Justify the expenses for each of the categories being performed within the grant/project period. Indicate which costs will be paid by the state's or territory's allocation from EPA (which would include the bonus match, if applicable) and which costs will be paid by the state's or territory's voluntary matching funds, if applicable.*

*Applicants must **itemize** costs related to personnel, fringe benefits, travel, equipment, supplies, contractual costs, other direct costs, indirect costs, and total costs. If the project budget includes any cost-share, mandatory or voluntary, the budget detail portion of the work plan must include a detailed description of how the applicant will obtain the cost-share and how the cost-share funding will be used.*

*Mandatory cost-share funds must be in the form of cash contributions to the Equipment Category. If EPA accepts an offer for a voluntary cost-share, applicants must meet their sharing commitment in order to receive EPA funding. If the proposed cost-share is to be provided by a third-party, a letter of commitment is encouraged. Any form of cost-share included in the budget detail must also be included on the SF-424 and SF-424A.*

*Applicants should use the following instructions, budget category descriptions and example table to complete the budget detail section of the work plan. Detailed sample budgets representing various mandatory cost-share versus state voluntary match scenarios are available at:*

[www.epa.gov/cleandiesel/clean-diesel-state-allocations](http://www.epa.gov/cleandiesel/clean-diesel-state-allocations).

### **Itemized Project Budget**

<b>Budget Category</b>	<b>FY 2017*</b>			<b>FY 2018</b>			<b>Total</b>
	<b>EPA Allocation</b>	<b>Voluntary Match (if applicable)</b>	<b>Mandatory Cost-Share (if applicable)</b>	<b>EPA Allocation</b>	<b>Voluntary Match (if applicable)</b>	<b>Mandatory Cost-Share (if applicable)</b>	
1. Personnel							
2. Fringe Benefits							
3. Travel							
4. Supplies							
5. Equipment							
6. Contractual							
7. Program Income							
8. Other							
Subgrant to Madison Local Schools for 25% of one school bus replacement (budgeted \$21,284, actual \$19,394) Local cost share will drop to \$58,182)	\$21,284		\$63,852				\$85,136
Subgrant to Great Lakes Towing for 40% of engine components of four new tugboats at	\$384,332	\$1,098,533	\$2,224,297				\$3,707,162

\$370,716 per vessel							
Subgrant to Great Lakes Towing for 40% of incremental diesel electric hybrid engine components of three new tugboats at \$624,000 per vessel				\$418,260	\$328,650	\$1,123,200	\$1,870,110
<b>9. Total Direct Charges</b>							
10. Indirect Charges							
<b>Total</b>	405,616	1,098,533	2,288,149	418,260	328,650	1,123,200	\$5,662,408

\*FY 2017 budget is only for states and territories with open FY 2017 State DERA grants

#### **Explanation of Budget Framework**

- **Personnel - N/A**
- **Fringe Benefits – N/A**
- **Travel – N/A**
- **Equipment – N/A**
- **Supplies – N/A**
- **Contractual – N/A**
- **Other - List each item in sufficient detail for EPA to determine the reasonableness and allowability of its cost.** This category should include only those types of direct costs that do not fit in any of the other budget categories. Examples of costs that may be in this category are: insurance, rental/lease of equipment or supplies, equipment service or maintenance contracts, printing or photocopying, rebates, and subaward costs. Subawards (e.g., subgrants) are a distinct type of cost under this category. The term “subaward” means an award of financial assistance (money or property) by any legal agreement made by the recipient to an eligible subrecipient. This term does not include procurement purchases, technical assistance in the form of services instead of money, or other assistance in the form of revenue sharing, loans, loan guarantees, interest subsidies, insurance, or direct appropriations. Subcontracts are not subawards and belong in the contractual category.

*Applicants must provide the aggregate amount they propose to issue as subaward work and a description of the types of activities to be supported.*

The amount of the proposed subaward to the Great Lakes Towing Company is based on a cost breakout of the additional funding requested by the company in a May 30, 2018 email, attached.

Canal/Logan	\$ 344,000 per vessel
Power Management Systems and Controls	
Motor Generators (2)	
Low Harmonic Drive Units (2)	
Hybrid Control Cabinet (1)	
Twin Disc – providing gears with Power Take Off	\$ 60,000 per vessel
Labor – engineering, installation, commissioning and training	<u>\$ 220,000 per vessel</u>
	\$ 624,000 per vessel
Project Total for three vessels (Hulls 6203, 6204, 6205)	\$1,872,000
60% Local cost share from company operating budget	\$1,123,200
40% share from grant and state match:	\$ 748,800
DERA FY18	
EPA base	\$ 278,840
EPA Match Incentive	\$ 139,420
Reallocated Unspent DERA FY17 funds	\$ 1,890
State Match VW DERA Option	<u>\$ 328,650</u>
	\$748,800

- **Indirect Charges – N/A**

**Administrative Costs Expense Cap N/A**

**Matching Funds and Cost-Share Funds**

*States and territories must provide a detailed description of the source of funding for any voluntary match or mandatory cost-share funds included in the project budget, if applicable. Include details on when the match will be available for use. If applicable, include letters of financial support, which specifically indicate how supporting organizations will assist in the project.*

*See Sections V.D and X of the Program Guide for more information on the voluntary matching incentive and mandatory cost-share funds.*

**Funding Partnerships N/A**